

# **Salem Communications Corporation**

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**WORD-FM 101.5, FCC I.D. 58627**

**Pittsburgh, PA**

**Attachment #1, Page 1 of 6**

**License Renewal Application, Section III, #6**

The WORD-FM facility is a Class B facility operating on 101.5 MHz with 43.0 kW ERP. The transmitter site is co-located on a tower with WPIT AM. The tower is 100 meters total height AGL and the center of radiation of the FM antenna is 94 meters AGL. The antenna is a Shively 6013-3, three-bay with full wave spacing.

The ASR number is 1027140, and the coordinates are North 40-29-2.0, West 79-59-34.0. The tower has a locked, gated security fence around the tower base with proper Radiofrequency Energy Exposure and High Voltage warning signage on the tower fence and transmitter building.

The attached Radiofrequency Energy Exposure Measurement Study was completed in January of 2006. A handout of Radiofrequency Energy Exposure Guidelines and sign postings are present at the site, which direct employees and visitors to avoid those areas of Radiofrequency Energy Exposure which may exceed the allowable exposure levels for Occupational and Public guidelines. All visitors must be verbally briefed and given the handout on the Radiofrequency Energy Exposure Guidelines immediately upon their arrival to the site by a station Engineering staff member. A copy of the handout for visitors is attached as pages 5 and 6.

The results of the Radiofrequency Exposure Measurement Study with Radiofrequency Energy Exposure Guidelines handout, shows that the WORD-FM transmitter site complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments per O.E.T. Bulletin 65.

# **Radiofrequency Energy Exposure Study**

## **WORD FM and WPIT AM**

### **Pittsburgh, Pennsylvania**

#### **Purpose of this Study**

This study was conducted for Pennsylvania Media Associates, Inc., licensee of both WORD and WPIT on January 4, 2006 by Randy Dietterich, Chief Engineer for the facility.

This study will demonstrate that the public is safe from exposure to Radiofrequency Energy Exposure levels exceeding Uncontrolled/Public maximums in the vicinity of the WORD/WPIT transmitting facility.

This study will also conclude that Occupational visitors to the facility must be instructed upon their arrival to observe safety signs and indicators and other methods to protect themselves from Radiofrequency Energy Exposure dangers exceeding Occupational / Controlled levels while performing their duties at the site.

#### **Description of Site**

WORD FM and WPIT AM share a common tower and transmitter building. The overall height of the tower is 100.0 meters AGL, and the tower registration # is 1027140.

WORD FM operates at a frequency of 101.5 MHz. and uses a 3-bay full-wave spaced Shively 6814-3 antenna mounted on a pole atop the AM tower, with the COR being 87.0 meters and with an ERP of 43,000 Watts.

WPIT AM operates on 730 KHz. with a power of 5,000 Watts Daytime and 24 Watts night, on the 86.8 degree radiator.

There is a 6 foot high, 50 by 65 foot locked chain link fence around the self-supporting tower out 25 feet from each leg of the tower. The Public cannot access the inside of the perimeter fence or the inside of the locked building.

#### **Measurement Survey**

Measurements were made utilizing a hand held Holaday RF Field Survey Meter Model HI 2200 Serial Number 00045648.

The E Field Probe used is the F.C.C. Conformal Electric Field 100 KHz. to 8 GHz. Model Number C300 Serial Number 000467646. This Probe utilizes the Percent of ANSI Standard Method.

The H Field Probe used for the Low Frequency Measurements is the 300 KHz. to 30 MHz. Model Number H210 Serial Number 00055053. This Probe utilizes the Amps per Meter Method.

The H Probe used for the High Frequency Measurements is the 5 MHz. to 300 MHz. Model Number H200 Serial Number 00035888. This Probe utilizes the Amps per Meter Method.

All measurement were performed using the sweep method, operating with the averaging method built into the Holaday Meter, as specified by the Holaday Operating Manual, utilizing probes held at arms length, and at a 45 degree angle from vertical, while both stations were operating at full power.

Occupational / Controlled measurements were made inside the transmitter building and inside all fenced areas where personnel would be performing duties. Public / Uncontrolled measurements were taken outside of the fenced areas and around the site accessible to the general public.

### **Results of RFE Measurements**

All areas outside of the locked fencing and the building were found to be well below maximum levels for both E and H exposure for Uncontrolled / Public areas.

The areas within the locked fence areas and building were found to be below maximum levels for Occupational levels with the exception of these two areas:

- (1) Around the AM Antenna Tuning Unit inside the building.  
This area has been marked with Yellow tape or is chained off to prevent accidental access to within close proximity of the unit.
- (2) Inside the locked fenced tower area.  
This area is marked on the Visitor Radio Exposure Guideline Handout given to all persons entering the transmitter site.

### **Supplement A to OET Bulletin 65 Calculations**

WORD FM - Using Table 6 and applying the rounded-up power of 50kW ERP and applying only 2 bays to the table, the worst case height is 72.6 meters per the chart. With



the real world of 87 meters of height and 3 bays and only 43kW ERP, WORD-FM easily passes the Supplement A calculations.

WPIT AM – Using Table 2 for AM distance with 0.25 wavelength antennas, the 5.0 kW calculation for clearance for the tower is 2 meters or 12ft.7in. As can be seen in the description, there is nearly twice that clearance around the tower. WPIT AM easily passes the Supplement A calculations.

### **Conclusions**

All visitors to the WORD / WPIT transmitter site are safe within the Uncontrolled / Public area outside of the fence and building.

Persons accessing the inside of the locked fence or building will be briefed on the cautions to observe and provided a handout showing these areas and the interpretations of the signage and other technical knowledge needed before entering within.

Occupational personnel accessing the inside of the locked fence around the tower will be limited to one minute duration in that area, and limited to access only within the area furthest from the tower and towards the perimeter fence while the AM facility is operating at full power.

To protect Occupational visitors working for longer durations than described in the previous paragraph, within the higher Occupational Levels, the power of the stations will be reduced to safe levels per OET Bulletin 65 and Supplement A, or the broadcasting will be terminated totally as needed.

### **Engineering Statement**

All measurements were performed by, Randy Dietterich, Chief Engineer, WPIT AM and WORD FM

January 4, 2005

Measured results are kept at the WORD FM and WPIT AM Transmitter site.

Randy Dietterich

**WORD FM / WPIT AM**  
**Pennsylvania Media Associates, Inc.**

**Radiofrequency Energy Exposure**  
**Guideline Handout**

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It is the policy of Pennsylvania Media Associates, Inc., to ensure safe working conditions at our transmitter locations. In compliance with FCC OET Bulletins 65 and 65a, we are enforcing the following policies:

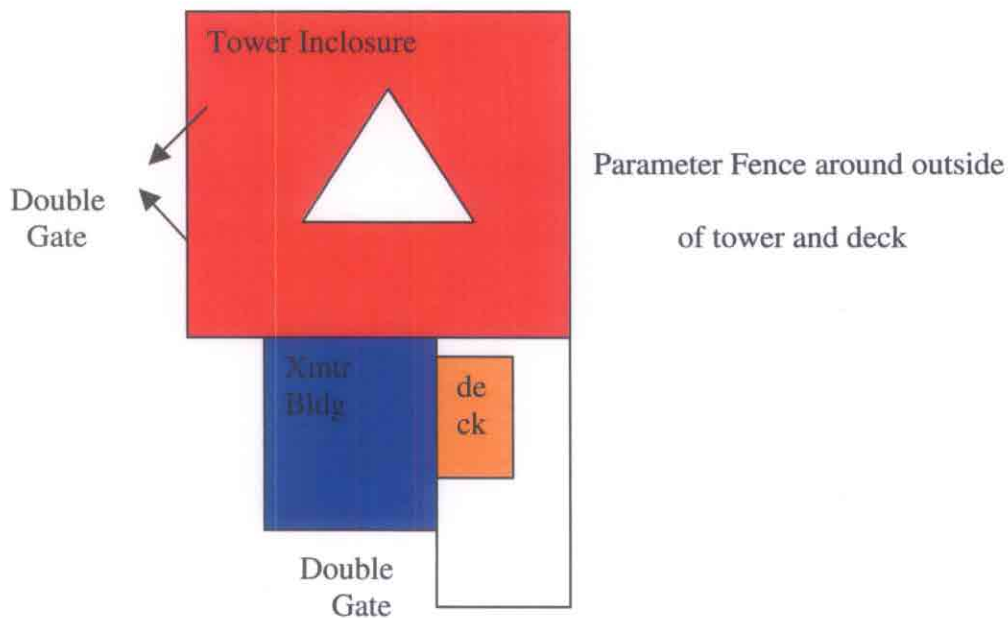
All visitors to Salem transmitter sites are to be logged into the transmitter site visitor logbook, located at each transmitter building, with the time/date, their name, company, and purpose of visit.

All visitors must be given a site handout showing areas where RF Exposure may exceed Public or Occupational limits. The visitors are required to be instructed in detail regarding the particular area they will be visiting.

Workers may not enter areas with "hot zones" (indicated as the color red and blue on page 2 of this handout) unless steps are taken to ensure they will not be exposed to fields exceeding Occupational or Public limits. This may include but not be limited to the wearing of special RF field-limiting clothing, or power-down and lockout of transmitting equipment for the duration of the time spent inside the "hot zone".

Anyone working within the red "hot" zones must be supervised by a WORD / WPIT Engineering representative.

# WORD-WPIT Radio Frequency Energy Exposure Areas



**Areas Marked in RED are not to be entered into with the WPIT Transmitter Operating at full power.**

**The Brown Area is the Deck used for T-Mobile Communications.**

**No one is to work within the Red or Blue areas without the Chief Engineer of WORD / WPIT present at the location and the proper steps taken for safe entry into these areas.**

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